

## DESCRIPTIONS OF NEW HYMENOPTERA. 2.

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In this paper 15 new species are described. Many of these were received from the correspondents of the Bureau of Entomology, U. S. Department of Agriculture, for identification, and are of economic importance so that the early publication of their descriptions is necessary in order that the names may be used in economic bulletins.

The comparative measurements used in the description of the new species were made with an eye-piece micrometer used in the number two eye-piece in the binocular microscope.

### Superfamily PROCTOTRYPOIDEA.

#### Family SCELIONIDÆ.

##### TELENOMUS BENEFACTOR, new species.

*Female*.—Length about 1.25 mm. Head and thorax black; antennæ brown; legs, including coxæ, flavo-testaceous; pedicel much longer than the first joint of the funicle; first and second joints of funicle slightly longer than broad, the first somewhat longer than the second; third and fourth subquadrate, fifth broader than fourth but not as broad as the next joint, still forming a part of the club; club much broader than the joints of the funicle; head about twice as broad as long; the occiput somewhat flattened; face smooth, the ocellar triangle and caudad of it minutely reticulated, and with scattered, minute, setigerous punctures; mesoscutum and scutellum basally, distinctly rather closely and minutely punctured; apex of scutellum smooth and polished; inflexed sides of pronotum reticulate down to coxæ; mesopleuræ, except a small area at lower front margin, smooth; metapleuræ longitudinally striate on lower half; first segment of abdomen not striate at base; second segment striate basally, the basal half of the striæ large, the apical half finer; abdomen longer than head and thorax together (as 27 is to 17); second segment longer than greatest width (as 14:10).

*Male*.—Length 0.75 mm. Similar in sculpture to the female; antennæ light brown, the scape and pedicel flavus; pedicel slightly longer than first joint of funicle; second joint of funicle longer than broad, the third subquadrate, the rest transverse; apical joint slightly longer than broad; face almost up to ocelli, cheeks and rear of head almost to upper end of eye flavo-testaceous; segment one of abdomen at sides showing short striæ, second segment slightly broader than long, with short striæ at base; apical segments deflexed, the external genitalia extruded and pointing ventrad.

*Habitat*.—Gebelein, Egyptian Soudan.

*Host*.—Eggs of *Tabanus taeniola* P. de Beauvoir.

Types and paratypes in the British Museum (Natural History).

*Paratype*.—Cat. No. 13688, U.S.N.M.

Described from two females and six males reared by Mr. H. H. King, July 14, 1909, and sent by the Entomological Research Committee (Tropical Africa) for the British Government.

The female of this species is easily separated from that of *T. tabani* Mayr by the lack of striæ at the base of the first abdominal segment; in *tabani* the head and thorax together are as long as the abdomen.

**TELENOMUS KINGI, new species.**

*Female*.—Length about 0.75 mm. Black; antennæ and legs, including coxæ, brown; the knees, bases, and apices of tibiæ and the tarsi paler; pedicel much longer than joint one of funicle; joints one and two of funicle slightly longer than broad, the following joints subquadrate; club four jointed, not very much enlarged; head twice as broad as long; head smooth, ocellar triangle with a few scattered, very minute, punctures; mesoscutum polished and with sparse punctures, each puncture bearing a silky white hair; scutellum with similar still sparser punctures, the apical portion smooth; inflexed sides of pronotum along lower margin reticulated; mesopleuræ mostly smooth; abdomen as long as the head and thorax together; first segment of abdomen striate for almost half its length; second segment striate at base; medially a few indistinctly carried beyond the others; striæ somewhat longer than those on first segment; segment two subquadrate, very slightly longer than greatest width (as 7:6).

*Male*.—Unknown.

*Habitat*.—Khor Arbat, Egyptian Soudan.

*Host*.—Eggs of *Tabanus kingi* Austin.

Described from eight specimens reared by Mr. H. H. King, "13. 4. 1910," and sent by the Entomological Research Committee (Tropical Africa) of the British Government.

Type and paratypes in the British Museum (Natural History).

*Paratype*.—Cat. No. 13687, U.S.N.M.

This species is distinguished from *T. tabani* Mayr by being smaller, with less distinct sculpture of the vertex and mesonotum, and by the short, more uniform striæ on the base of the second abdominal segment.

Named in honor of Mr. H. H. King, who collected the material.

**TELENOMUS GOWDEYI, new species.**

*Female*.—Length about 2 mm. Black; coxæ and femora black, tibiæ medially dusky, rest of legs dark testaceous; antennæ brown, the club 5 jointed, base of scape testaceous; pedicel longer than first joint of funicle, first joint of funicle longer than wide, the following joints subquadrate; face along lower inner orbits and the front, reticulate, rest of face smooth and polished; mesoscutum with fine punctures; scutellum smooth; metanotum finely rugose; propodeum coarsely rugose; smooth area around insertion of abdomen extending dorsally to front of propodeum making a conspicuous triangular area; wings slightly dusky; abdomen smooth, the first segment at base longitudinally striate; the second segment over twice as long as wide; segments 1–5 in length in the following ratio: 1:6:4:4:4.

*Male*.—Length about 1 mm. Similar to the female, the antennæ and legs entirely testaceous; pedicel and joints 1–3 of funicle subequal in length; second segment of abdomen about twice as long as wide; following segments hardly showing.

*Habitat*.—Entebbe, Uganda, Africa.

*Type*.—Cat. No. 13653, U.S.N.M.

Paratypes in the British Museum (Natural History).

Many specimens reared from the eggs of *Anaphe infracta*, by C. C. Gowdey and sent by him under number 1325.

In the female the apical segments of the abdomen are often retracted, so that only segments 1–3 show.

Named for Mr. C. C. Gowdey.

**Superfamily CHALCIDOIDEA.**

**Family TORYMIDÆ.**

**TORYMUS MONTSERRATI, new species.**

*Female*.—Length about 2.5 mm.; ovipositor about 1.5 mm. Green, the propodeum and abdomen more brassy; head finely reticulate and with scattered large setigerous punctures; scape testaceous, pedicel light brown, flagellum dark brown; mesoscutum with fine transverse irregular rugulæ, appearing almost as irregular punctures; axillæ and postscutellum with fine thimble-like punctures; the whole mesonotum with scattered setigerous punctures; propodeum with a very fine reticulation of raised lines; veins brown, the stigmal knob sessile;

coxae green; femora behind, except tips, green; in front dark brown; rest of legs testaceous; abdomen finely reticulated.

*Male*.—Length about 2 mm. Similar to the female, the tibiae brown.

*Habitat*.—Montserrat, West Indies.

*Type*.—Cat. No. 13658, U.S.N.M.

Two female and three male specimens sent by Mr. Ballou bearing the additional data "Lime Plot I, March, 1910."

### Family ENCYRTIDÆ.

#### Genus TANAOSTIGMODES Ashmead.

In addition to the difference in venation the males of this genus are also separated from *Tanaostigma* (according to the only male known), by the branches of the antennæ being short, not reaching the club, and by the fifth joint of the funicle being less than twice as long as the fourth.

#### TABLE OF FEMALES.

1. Mostly dark brown or black.....	2
Largely yellow, sometimes tinged with brown.....	3
2. Head entirely dark, scutellum much longer than broad.....	<i>tychii</i> Ashmead
Head with yellow bands, scutellum only slightly longer than broad, abdomen with scattered appressed hairs.....	<i>slossonæ</i> , new species
3. Dorsum infuscated with brown, scutellum much longer than broad; marginal vein much longer than stigmal; stigmal longer than postmarginal.....	<i>howardi</i> Ashmead
Head and thorax lemon yellow, dorsum of abdomen somewhat brownish; scutellum hardly longer than broad; marginal vein hardly longer than stigmal; stigmal and postmarginal subequal.....	<i>tartus</i> , new species

#### TANAOSTIGMODES SLOSSONÆ, new species.

*Female*.—Length about 2 mm. Deep brown or brownish-black; face below level of eyes yellow; the oral region somewhat infuscated; a yellow line between eyes, above level of insertion of antennæ, which is about as broad as the black stripe below it; sides of scrobes, a longitudinal stripe on scape, broad lower posterior orbits of eyes for over two-thirds the height of eyes, small spot on upper edge of prepectus, and a narrow line along upper edge of mesopleuræ, light yellow; antennæ brown, the joints of funicle slightly wider than long, the first slightly shorter than the pedicel; head and thorax closely, finely punctured, the punctures almost thimble-like; abdomen with shallow punctures somewhat resembling reticulations by raised lines; whole insect with scattered spicule-like hairs; parapsidal furrows meeting before reaching rear of mesoscutum and continuing as a single line; scutellum slightly longer than broad (as 37:30); pleuræ more brownish, legs light brown; wings hyaline, veins testaceous; marginal vein twice as long as stigmal, the latter slightly longer than postmarginal (30:15:12).

*Male*.—Length about 1.5 mm. Similar to the female, the scape entirely yellowish; first joint of funicle not longer than the two-ring joints combined; second joint of funicle not twice as long as first; third about as long as one and two together; fourth about as long as two plus three; fifth shorter than three and four together, sixth about as long as third; club distinctly three segmented, about one and one-half times as long as last joint of funicle.

*Habitat*.—Biscayne Bay, Florida.

*Type*.—Cat. No. 13660, U.S.N.M.

Three females and one male, two of the females collected by Mrs. Annie Trumbull Slosson, for whom the species is named.

TANAOSTIGMODES TETARTUS, new species.

*Female*.—Length 1.75 mm. Yellow, including the antennæ and legs, the abdomen above somewhat infuscated; head and thorax closely punctured, the thorax with scattered black hairs, each at point of insertion surrounded by a very small brown spot; parapsidal furrows toward rear faint, apparently meeting at apex of mesoscutum; scutellum hardly longer than broad (29:25); marginal vein slightly longer than stigmal, the latter and the postmarginal subequal (30:15:15); legs with scattered black hairs; sculpture of abdomen resembling reticulations by raised lines.

*Male*.—Unknown.

*Habitat*.—Barbados, West Indies.

*Type*.—Cat. No. 13661, U.S.N.M.

Four specimens sent in by Mr. H. A. Ballou under number 7, with the additional data "On Hibiscus," May 25, 1909.

Family PTEROMALIDÆ.

Tribe RHAPHITELINI.

HABROCYTUS PIERCEI, new species.

*Female*.—Length about 4 mm. Bluish green, antennæ brown, scape testaceous; pedicel shorter than first joint of funicle; facial quadrangle one-third wider than long; distance from a line joining lower margins of eye to side of clypeus slightly over half the length of eye; left mandible with third tooth at apex broad, blunt; head, dorsum of thorax, including propodeum between the lateral folds, and the pleuræ with thimble-like punctures; pronotum rounded in front; lateral folds of propodeum broad, deep, the carina at the outer edge of these folds extending back on the neck of the propodeum; neck of propodeum with a large basal fovea on each side; median carina on propodeum indistinct; marginal and postmarginal veins subequal, the stigma shorter; femora green; the bases and apices of femora, trochanters in part, and the tibiæ and tarsi, testaceous; segment one of abdomen almost as long as segments 2-4 combined;



fifth segment distinctly longer than fourth, sixth still longer; segments 7 and 8 combines twice as long as 5.

*Male*.—Unknown.

*Habitat*.—Tallulah, Louisiana.

*Host*.—*Anthonomus grandis* Boheman.

Described from four specimens reared by Division of Southern Field Crops of the Bureau of Entomology, U. S. Department of Agriculture. The type and one paratype have Hunter number 1326, collected October, 1909, in lot I 44 *n* and issued March 14 and 22, 1910, respectively. Two paratypes have Hunter number 1934, one collected December 16, 1909, in lot V 1 *a* 33, and issued March 1, 1910; the others collected November 29, 1909, from lot V 1 *a* 22 and issued November 29, 1909.

*Type*.—Cat. No. 13685, U.S.N.M.

This species resembles *H. phycitidis* and *H. thyridopterigis*, but in both these species the fourth segment of the abdomen is as long as the fifth.

Named for Mr. W. Dwight Pierce, of the Bureau of Entomology, U. S. Department of Agriculture.

#### Tribe PTEROMALINI.

#### Genus ZATROPIS Crawford.

When this genus was originally described only the female was known. Since then the opposite sex has turned up in the type species as well as in the new species described below. The male has the antennæ very like those of the female and with three ring joints, a character which readily separates these males from the males of the genus *Catolaccus* and allied genera.

#### ZATROPIS DEUTERUS, new species.

*Female*.—Length about 2 mm. Head and thorax brassy green, with fine thimble-like punctures; abdomen bluish green; eyes in dead specimens red-brown; pubescence of head and thorax spicule-like, each hair in a puncture surrounded by a flat polished space; scape and pedicel light testaceous; funicle brown; first joint of funicle about as long as pedicel, following joints of funicle successively slightly shorter; propodeum between the lateral carinæ with shallow thimble-like punctures; median carina distinct; laterad of lateral folds, the surface indistinctly sculptured; neck of propodeum short, finely transversely wrinkled; postmarginal vein about half as long as marginal, the stigmal slightly shorter than the postmarginal; veins light testaceous or whitish; legs, except coxæ, yellowish.

*Male*.—Length about 1.5 mm. Similar to the female, except in secondary sexual characters.

*Habitat*.—Antigua, West Indies.

*Host*.—A cecidomyid larvæ injuring cotton.

*Type*.—Cat. No. 13659, U.S.N.M.

Many specimens sent by Mr. Ballou, some under note number 901, others without note number.

### Family EULOPHIDÆ.

#### Subfamily ENTEDONINÆ.

#### Genus PLEUROTROPIS Foerster.

##### PLEUROTROPIS TELENOMI, new species.

*Female*.—Length about 1.25 mm. Face below furrow green; rear of head and thorax æneous; scutellum greenish; propodeum blue-green; base of abdomen deep blue, the rest of the abdomen æneous; legs brown, with metallic reflections; tarsi, except apically, whitish; face below V-shaped furrow smooth, except along inner orbits; antennæ green; rear of head with shallow thimble-like punctures; mesoscutum very finely reticulated; posteriorly the rugulæ becoming longitudinal; scutellum laterally with fine longitudinal striæ, the disk smooth; metanotum smooth; propodeum smooth, medially, with two carinæ converging anteriorly and between these a less distinct carina; lateral carinæ distinct; petiole finely rugose; abdomen smooth.

*Male*.—Length about 1 mm. Similar to the female; head and thorax brassy, the propodeum green, the abdomen purplish; the head below furrow rather coarsely reticulate, above it more finely reticulate; the sculpture of the mesonotum stronger; legs, including coxæ, brown; the space between the two medial carinæ of the propodeum with three indistinct carinæ.

*Habitat*.—Entebbe, Uganda, Africa.

*Type*.—Cat. No. 13652, U.S.N.M.

Paratypes in the British Museum (Natural History.)

Many specimens reared from the eggs of *Anaphe infracta* by Mr. C. C. Gowdey, together with *Telenomus gowdeyi*, on which it must be a secondary parasite. The area between the two medial carinæ on the propodeum varies in showing from one to three indistinct carinæ, the type-specimens being as given in the above descriptions. The color also varies considerably especially in the male, being at times very similar to the description given for the female.

#### Genus HORISMENUS Walker.

In working with these minute forms it is necessary to use the highest magnification of the Zeiss binocular microscope to see certain of the characters such as the sculpture of the first segment of the abdomen.

The following table using in part characters not mentioned by Dr. W. H. Ashmead will separate the females of the species known to

occur in the West Indies. All of Doctor Ashmead's species from the West Indies were described in the genus *Holcopelte*<sup>1</sup> a genus which later Doctor Ashmead considered a synonym of *Horismenus*.

- |  |                                     |   |
|--|-------------------------------------|---|
| 1. Coxæ white .....  | <i>productus</i> Ashmead.           |   |
| Coxæ not white .....   |                                     | 2 |
| 2. Scape white .....   |                                     | 3 |
| Scape not white .....  |                                     | 7 |
| 3. Face above transverse furrow with weak thimble-like punctures medially, the sides and ocellar triangle smooth, without such punctures; scutellum faintly reticulated; lateral carinæ of scutellum not meeting medially at apex of scutellum; median carina of scutellum not reaching apex.... | <i>cupreus</i> Ashmead.             |   |
| Face above transverse furrow, usually including ocellar triangle with thimble-like punctures or ocellar triangle reticulated.....  |                                     | 4 |
| 4. Scutellum reticulate.....   |                                     | 5 |
| Scutellum smooth; first segment of abdomen smooth.....   | <i>balloui</i> , new species.       |   |
| 5. First segment of abdomen punctured.....   |                                     | 6 |
| First segment of abdomen reticulate.....   | <i>nigroaeneus</i> Ashmead.         |   |
| 6. Prepectus closely punctured.....  | <i>apantelivorus</i> , new species. |   |
| Prepectus not punctured.....   | <i>cockerelli</i> , new species.    |   |
| 7. Segment one punctured.....  | <i>metallicus</i> Ashmead.          |   |
| Segment one reticulate.....  | <i>nigrocyaneus</i> Ashmead.        |   |

**HORISMENUS BALLOUI, new species.**

*Female*.—Length about 1.5 mm. Deep green, scape and legs except coxæ, white; face above transverse furrow with shallow thimble-like punctures; pedicel shorter than first joint of funicle; mesocutum finely reticulate; scutellum smooth; pleuræ almost smooth; prepectus punctured; petiole hardly longer than broad; segment one of abdomen smooth, about as long as the following segments combined.

*Male*.—Length about 1 mm. Similar to the female, except in secondary sexual characters.

*Habitat*.—St. Kitts, West Indies.

*Type*.—Cat. No. 13654, U.S.N.M.

Three female and two male specimens received from Mr. H. A. Ballou, bearing the additional record "No. 17, *L. oleæ* on *Spathodea* 14/2/10."

Named for Mr. H. A. Ballou.

**HORISMENUS APANTELIVORUS, new species.**

*Female*.—Length about 2 mm. Dark greenish æneous, the scape and legs, except coxæ, white; face above transverse furrow with thimble-like punctures, the ocellar triangle finely reticulate; mesoscutum reticulate, scutellum and axillæ reticulated with impressed lines; median elevation of propodeum narrow, not as wide as the depressions on either side of it; pleuræ smooth, prepectus with fine

<sup>1</sup> Journ. Linn. Soc., Zool., vol. 25, 1894, p. 169 et seq.



thimble-like punctures; first segment of abdomen punctured apically, hardly as long as the succeeding segments combined.

*Male*.—Length about 1.75 mm. Similar to the female, the scape dark brown with metallic luster, the femora slightly infuscated with brown.

*Habitat*.—Kingston, Jamaica.

*Host*.—*Apanteles* (sens lat.), sp.

*Type*.—Cat. No. 13655, U.S.N.M.

Eight female and three male specimens bearing the Bureau of Entomology, U. S. Department of Agriculture, number 5755, the note stating that the specimens were reared by Prof. T. D. A. Cockerell.

**HORISMENUS COCKERELLI, new species.**

*Female*.—Length about 2.25 mm. Green, scape and legs, except coxæ, white; first joint of funicle slightly longer than pedicel; second and third joints of funicle longer than wide; face above transverse carina with thimblelike punctures; ocellar triangle finely reticulate; mesoscutum reticulate, scutellum and axillæ with a reticulation of impressed lines; pleuræ, including prepectus, smooth; median elevation of propodeum wider than the depressions on either side of it; petiole hardly longer than wide; first segment of abdomen punctured apically, about as long as the succeeding segments together.

*Male*.—Length 2 mm. Similar to the female. The type-specimen lacking the antennæ beyond the pedicel.

*Habitat*.—Kingston, Jamaica.

*Host*.—*Apanteles* (sens lat.), sp.

*Type*.—Cat. No. 13656, U.S.N.M.

Five female and one male specimen bearing the U. S. Department of Agriculture Bureau of Entomology Number 5516, the note stating that the specimens were reared by Prof. T. D. A. Cockerell.

Named for Prof. T. D. A. Cockerell.

**Subfamily TETRASTICHINÆ.**

**TETRASTICHUS ANTIGUENSIS, new species.**

*Female*.—Length about 1.5 mm. Green, the legs, except coxæ, testaceous; the antennæ yellowish, pedicel about as long as first joint of funicle; head finely lineolated, the face above antennæ with large punctures; pronotum finely rugoso punctate, mesonotum with finely longitudinal impressed lines; median area of mesoscutum with a single row of large punctures along the parapsidal furrows; meta-notum rugulose, about half as long as the propodeum; propodeum with a strong median carina and laterally a carina curving outward, these lateral carina central of the spiracles; area between the lateral carinæ with thimblelike punctures, space surrounding spiracles

smooth; prepectus, metapleuræ and hind coxæ exteriorly, with thin-blelike punctures; abdomen distinctly shorter than head and thorax combined.

*Male*.—Length about 1 mm. Similar to the female.

*Habitat*.—Antigua, West Indies.

*Host*.—*C. floridensis*.

*Type*.—Cat. No. 13657, U.S.N.M.

Sent by Mr. Ballou under No. 60 with the date 16/2/09.

This species closely resembles *T. punctifrons* Ashmead, which in addition to the difference in color also has the abdomen slightly longer than the head and thorax together, the propodeum hardly longer than the metanotum and the metanotum with punctures similar to the propodeum.

TETRASTICHUS OVIVORUS, new species.

*Female*.—Length about 1.4 mm. Dark green, abdomen beyond first segment ænous; legs, including coxæ, light testaceous; antennæ brown, scape and pedicel testaceous; joints of funicle elongate, the first much longer than the pedicel; median and lateral lobes of mesoscutum finely reticulated with impressed lines; sculpture of axillæ more obscure; of scutellum consisting of fine longitudinal lines; median lobe of mesonotum slightly wider than long; scutellum as long as the mesoscutum and as wide between outer pair of grooves as long; median groove of mesoscutum and discal pair of grooves of scutellum well marked; metanotum almost as long as propodeum, both finely roughened; median carina on propodeum distinct; abdomen slightly longer than head and thorax combined, finely reticulated beyond the first segment, not strongly depressed, the sheaths of the ovipositor showing.

*Male*.—Length about 1 mm. Similar to the female, the first joint of the funicle hardly longer than the pedicel and not as long as the second.

*Habitat*.—Entebbe, Uganda, Africa.

*Host*.—Eggs of *Conchyloctenia parummaculata*.

Type in British Museum (Natural History).

*Paratype*.—Cat. No. 13686, U.S.N.M.

Described from two female and two male specimens reared by Mr. C. C. Gowdy and transmitted by the Entomological Research Committee (Tropical Africa) of the British Government.

Subfamily EULOPHINÆ.

SYMPIESIS FELTI, new species.

*Female*.—Length about 2 mm. Head deep purplish, the clypeal area green; abdomen brown with green along the sides; face smooth except medially above clypeus, where it is roughened; antennæ sit-

uated well above a line connecting the lower margins of the eyes; antennæ dark brown, scape except tip whitish; pedicel not half as long as first joint of funicle; joints of funicle elongate, the first longer than the second, the third and fourth subequal and shorter than the second; middle lobe of mesonotum and scutellum reticulate with raised lines; lateral lobes of mesonotum reticulate outwardly, the inner margins smooth and with a few setigerous punctures; axillæ smooth, shiny; disk of metathorax smooth, with a median carina; propodeum with a median and lateral carinæ, and slightly back of the middle a transverse one; between the spiracles smooth, laterad of the spiracles with setigerous punctures; neck of propodeum at sides with a flattened plate-like process extending over the base of the coxæ; postmarginal vein almost twice as long as stigmal; marginal vein not much longer than submarginal and not twice as long as postmarginal; legs light testaceous; abdomen smooth, quite hairy at base.

*Male*.—Unknown.

One specimen from Hudson Falls, New York, May 27, 1910, with the number a2034, reared from *Agromyza melanopyga* in fern leaves.

*Type*.—Cat. No. 13651, U.S.N.M.

Received through the Bureau of Entomology, from Dr. E. P. Felt, after whom it is named.